

GENERIC (GRADUATE) ATTRIBUTES

- ☐ Competence in using computers and information technology effectively.
- ☐ Ability to apply an integrative or systems approach to solving engineering problems.
- ☐ Fluency in mathematical approaches used in the relevant engineering discipline.
- ☐ Awareness of uncertainty and recognising limitations of engineering approaches and systems.
- ☐ Awareness for the need for sustainable systems and principles of sustainable design.
- ☐ Awareness of the assessment and the management of risk.
- ☐ Competence in problem identification, formulation and solution.
- ☐ Competence in independent, critical and innovative thinking.
- ☐ Familiarity with project management skills.
- ☐ Awareness of business and financial management.
- ☐ Awareness of human resources management issues.

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- ☐ Competence to adapt to a changing society (lifelong learning skills).
- ☐ Ability to communicate effectively with others in the engineering profession and the community – written, oral and listening skills.
- ☐ Ability to manage effectively the allocation of time in performing tasks.
- ☐ Awareness of engineering ethics.
- ☐ Awareness of the social, cultural, political, international and environmental context of professional engineering practice.

GENERIC ATTRIBUTES (MALAYSIAN PERSPECTIVE)....

Malaysia is currently a provisional member of the Washington Accord and also the Engineering Accreditation Council (EAC) in Malaysia. The implementation of the EAC criteria into Engineering Courses is critical to the success of engineering education. The EAC criteria emphasise on Outcome-Based Education (OBE) in engineering education.

The OBE focuses on outcomes in the preparation of graduates to compete effectively for professional careers in this field and with the motivation for personal and professional growth through lifelong learning. The early step taken in the process of implementing OBE is to establish Programmes Outcomes (PO). PO is a method of assessment for OBE. One of the POs used is related to measuring generic skills such as communications and teamwork skills. Hence, one of the methods to assess these POs is by using Problem Based Learning

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Table 1: Programme Outcomes

| Programme Outcome | Evaluation Criteria |
|-------------------|---|
| PO1 | Ability to acquire and apply knowledge of basic science and engineering fundamentals. |
| PO2 | Ability to communicate effectively, not only with engineers but also with the community at large. |
| PO3 | Having in-depth technical competence in the specific engineering discipline of manufacturing engineering. |
| PO4 | Ability to undertake problem identification, formulation and solution. |
| PO5 | Ability to utilize a systems approach to design and evaluate operational performance. |
| PO6 | Ability to function effectively as an individual and in a group with the capacity to be a leader or manager as well as an effective team member. |
| PO7 | Having the understanding of the social, cultural, global and environmental responsibilities and ethics of a professional engineer and the need for sustainable development. |
| PO8 | Recognizing the need to undertake lifelong learning, and possessing/acquiring the capacity to do so. |
| PO9 | Ability to design and conduct experiments, as well as to analyze and interpret data. |
| PO10 | Ability to function on multi-disciplinary teams. |
| PO11 | Having the knowledge of contemporary issues. |
| PO12 | Ability to use techniques, skills, and modern engineering tools necessary for engineering practice |

(MALAYSIAN
PERSPECTIVE).....